

Challenges for Liquid Logistics and the Future Combat Systems



Petroleum and Water Systems (PAWS) Symposium II

Norfolk, VA

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Logistics: Key to Army Transformation



Sustainable: We will aggressively reduce our logistics footprint and replenishment demand. This will require us to control the numbers of vehicles we deploy, leverage reach back capabilities, invest in a systems approach to the weapons and equipment we design, and revolutionize the manner in which we transport and sustain our people and materiel. (*Gen Shinseki, The Army Vision*)

Fuel and water are 87% of weight of sustainment

(Total Army Analysis)

Future Combat Systems

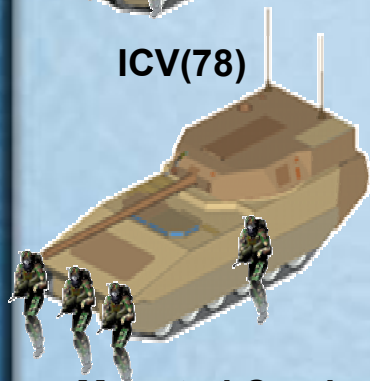
■ Manned Systems



ICV(78)



Mounted Combat System(54)



NLOS Cannon(18)

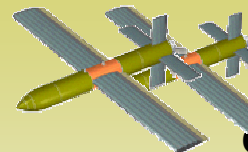


NLOS mortar(24)



Reconnaissance and Surveillance(27)

■ Unmanned Aerial System



Class II (36)



Class III(12)



Class IV(8)
(2X4)

Class I (54)

■ Unmanned Ground Vehicles



ARV-A (18)



ARV-R (22)



Small Unmanned Ground Vehicles UGV (99)

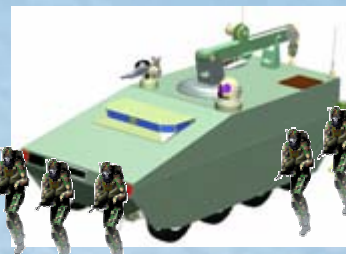


Mule (60)
ARV-L (18)

Unmanned Payloads

Unattended Ground Sensors

Unattended Munitions
-NLOS LS (60)
-Intelligent Munitions



FCS Maintenance and Recovery Veh. (10)



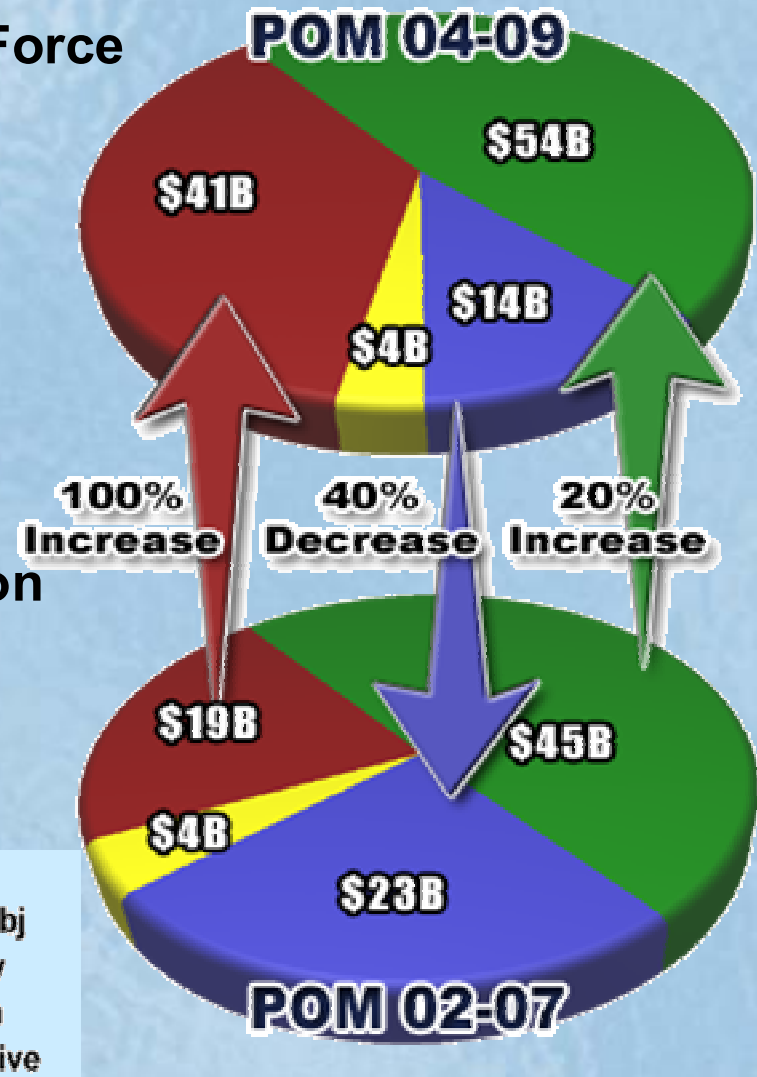
Medical Treatment, Evacuation(31)

Total UA WT: <10 K STONS Total Platforms: 369+ , 66+ Air
Derived From 22 Jan 03 (ORD Change 2) Structure

Total Personnel: 2499

Army Investment

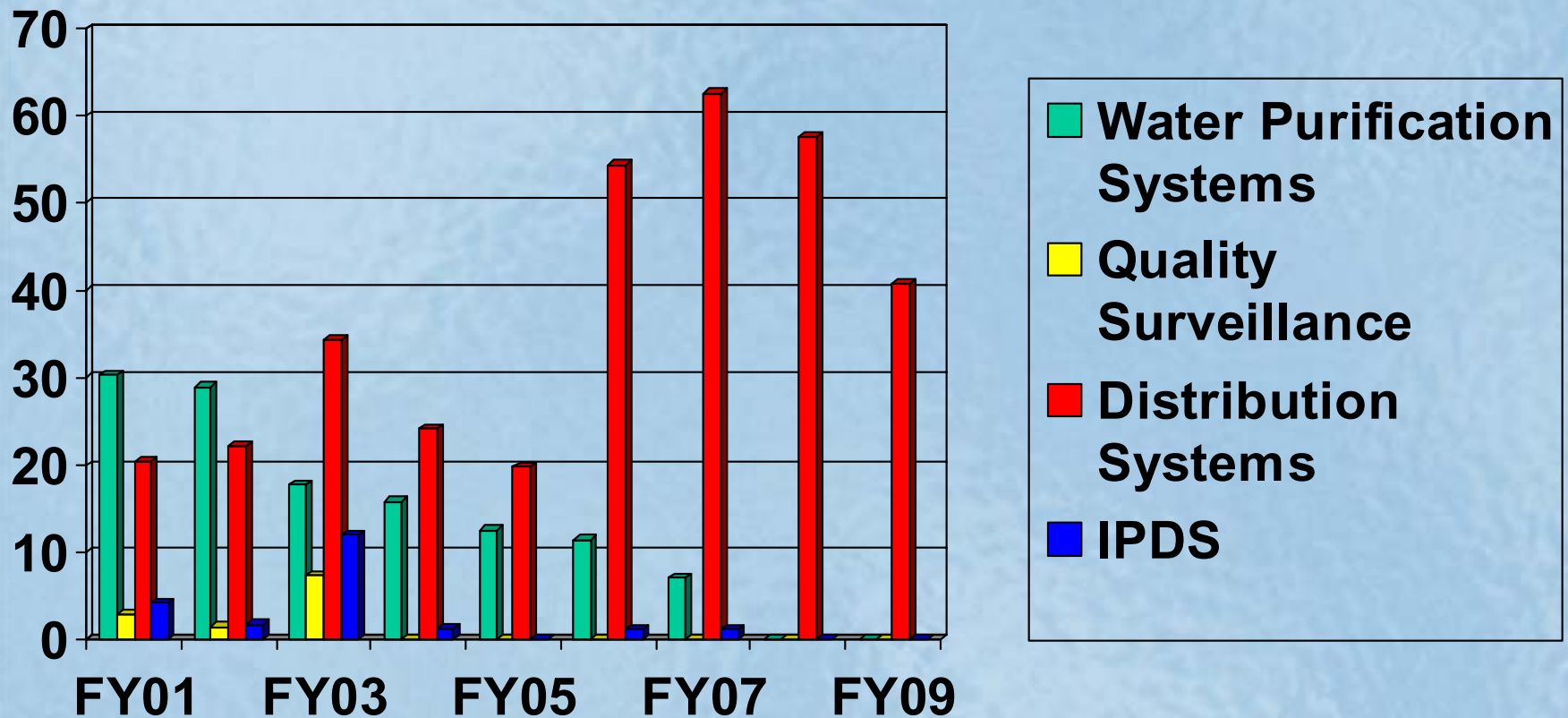
- 90% of RDA supports Objective Force
 - 53% Objective Force
 - 37% Legacy Force > Objective Force
- Restructures/terminations transferred \$23B to transformation
- More to come POM 05-09



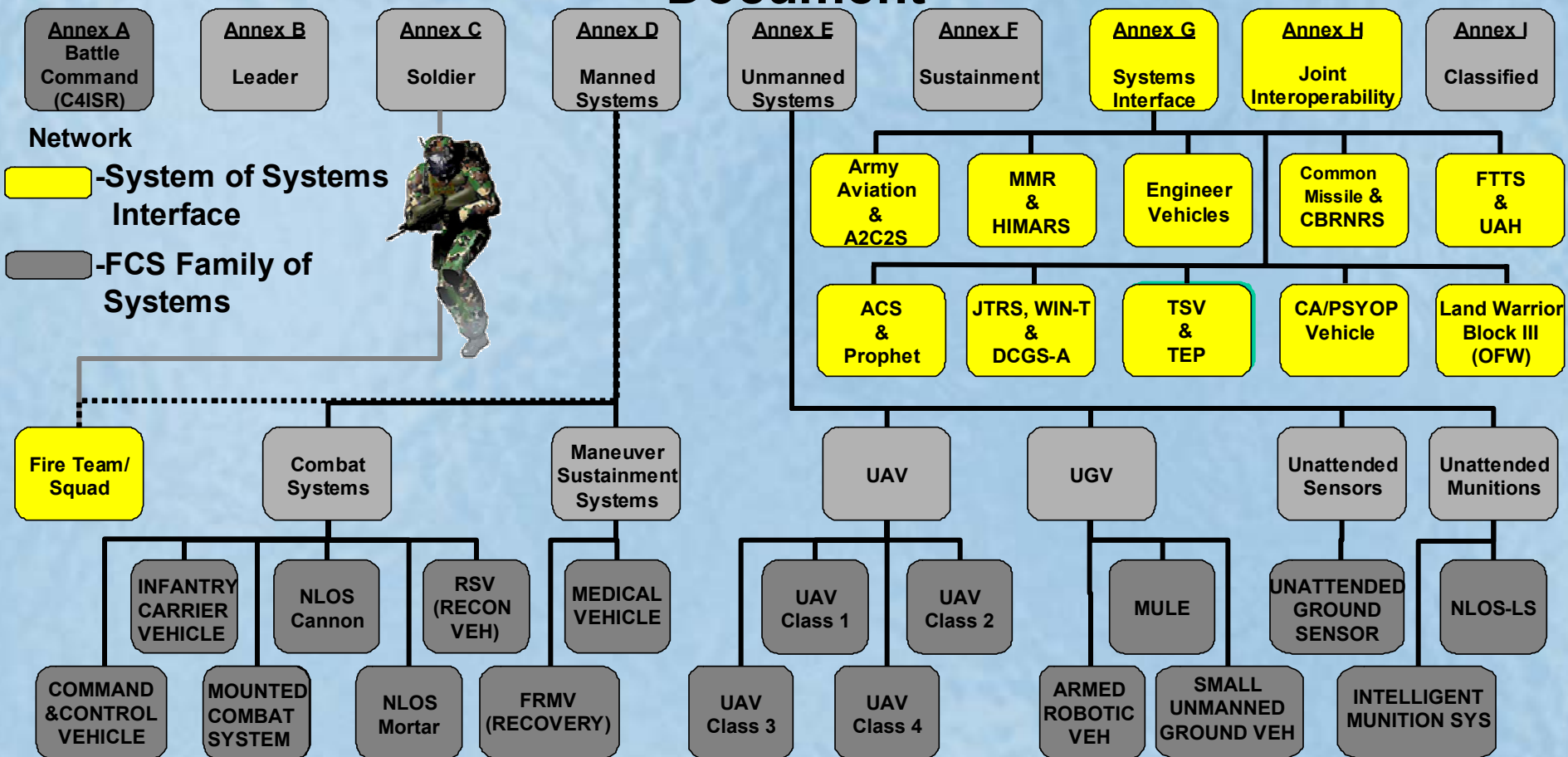
Liquid Logistics Funding Data

FY04 President's Budget and Future Year Defense Plan

\$ Mil



Future Combat System Operational Requirements Document

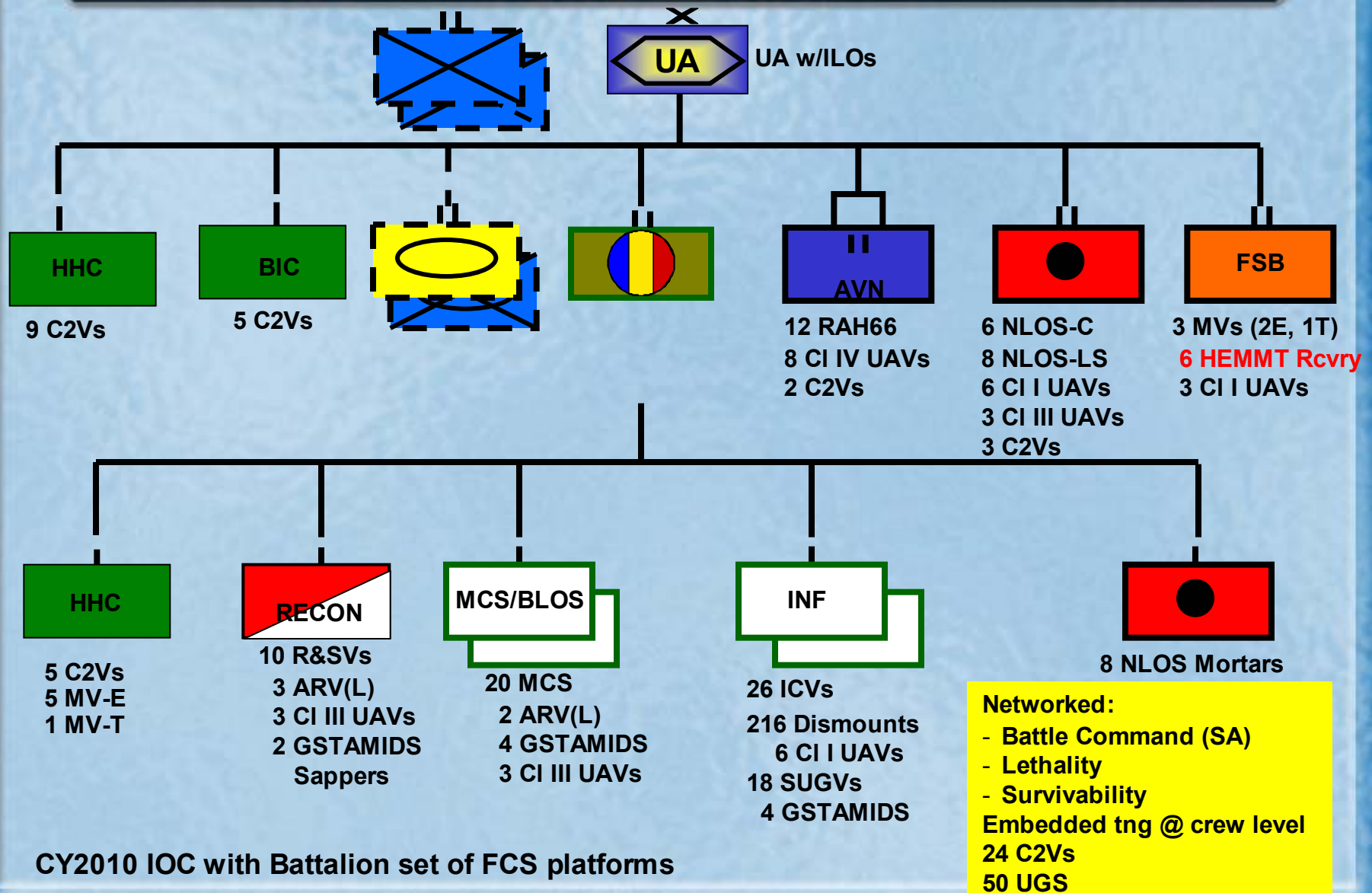


A2C2S – Army Airborne Command & Control System
 ACS – Aerial Common Sensor
 ARV – Armed Robotic Vehicle
 C2V – Command and Control Vehicle
 CA/PSYOP – Civil Affairs and PSYOP Vehicle
 CBRNRS – CBRN Reconnaissance System
 DCGS-A – Distributed Common Ground System – Army
 FRMV – Future Recovery and Maintenance Vehicle
 FTTS – Future Tactical Truck System

HIMARS – High Mobility Artillery Rocket System
 ICV – Infantry Carrier Vehicle
 IMS – Intelligent Munitions System
 JTRS – Joint Tactical Radio System
 LOS – Line of Sight
 MCS – Mounted Combat System
 MMR – Multi-Mission Radar
 MULE – Multi-function Utility/Log Equip. Veh.
 MV – Medical Vehicle
 NLOS – C – Non-Line of Sight - Cannon

NLOS – M – Mortar
 NLOS – LS – Launch System
 RSV – Reconnaissance and Surveillance Veh
 SUGV – Small Unmanned Ground Vehicle
 TSV – Theater Support Vessel
 TEP – Tactical Electrical Power
 UAH – Up Armored HMMWV
 UAV – Unmanned Aerial Vehicle
 UGS – Unmanned Ground Sensors
 UGV – Unmanned Ground Vehicles

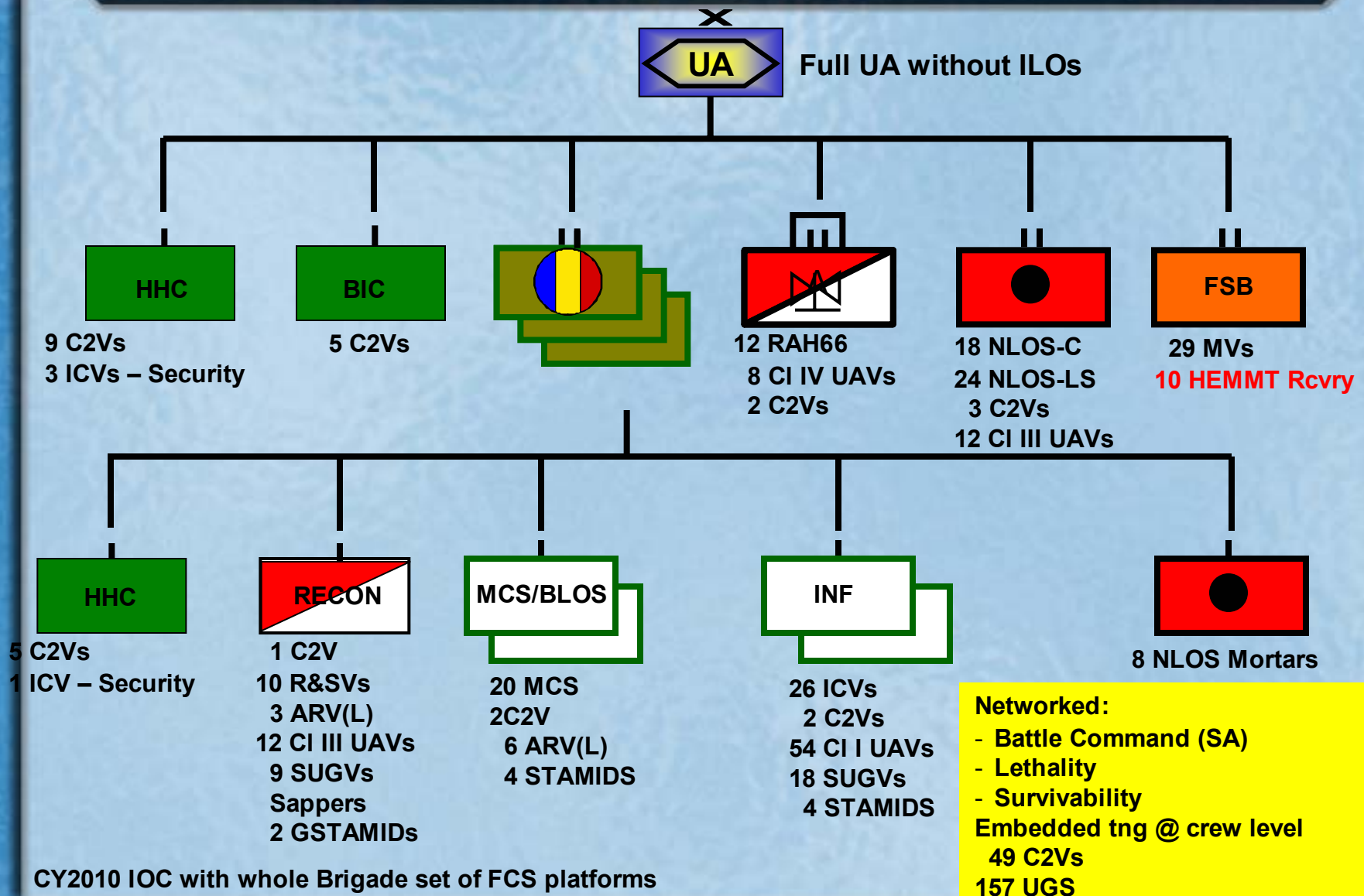
Unit of Action Design – IOC - 2010



KPP # 5 – Sustainability / Reliability

- **Increment 1: The FCS FoS must maximize available combat power while achieving significant logistics footprint reductions and personnel efficiencies in the area of operation through reduced demand for maintenance and supply.**
- **Rationale: FCS-equipped Unit of Action characteristics of tactical dispersion and rapid offensive maneuver over tactical and operational distances demand superior FCS FoS availability, reliability and maintainability and reduced external resupply of the UA. Cornerstone enabling capabilities include increased operational availability [measured by mission defined critical systems, greater than 85% (Threshold) and 99% (Objective) (Ao)], reduced maintenance ratios [less than 0.10 (Threshold) and 0.025 (Objective)] maintenance man hours to operating hours (MMH/OH), reduction in fuel consumption, and on-board water generation (Objective). Supporting enablers include component commonality, reliable embedded diagnostic and prognostic capabilities.**

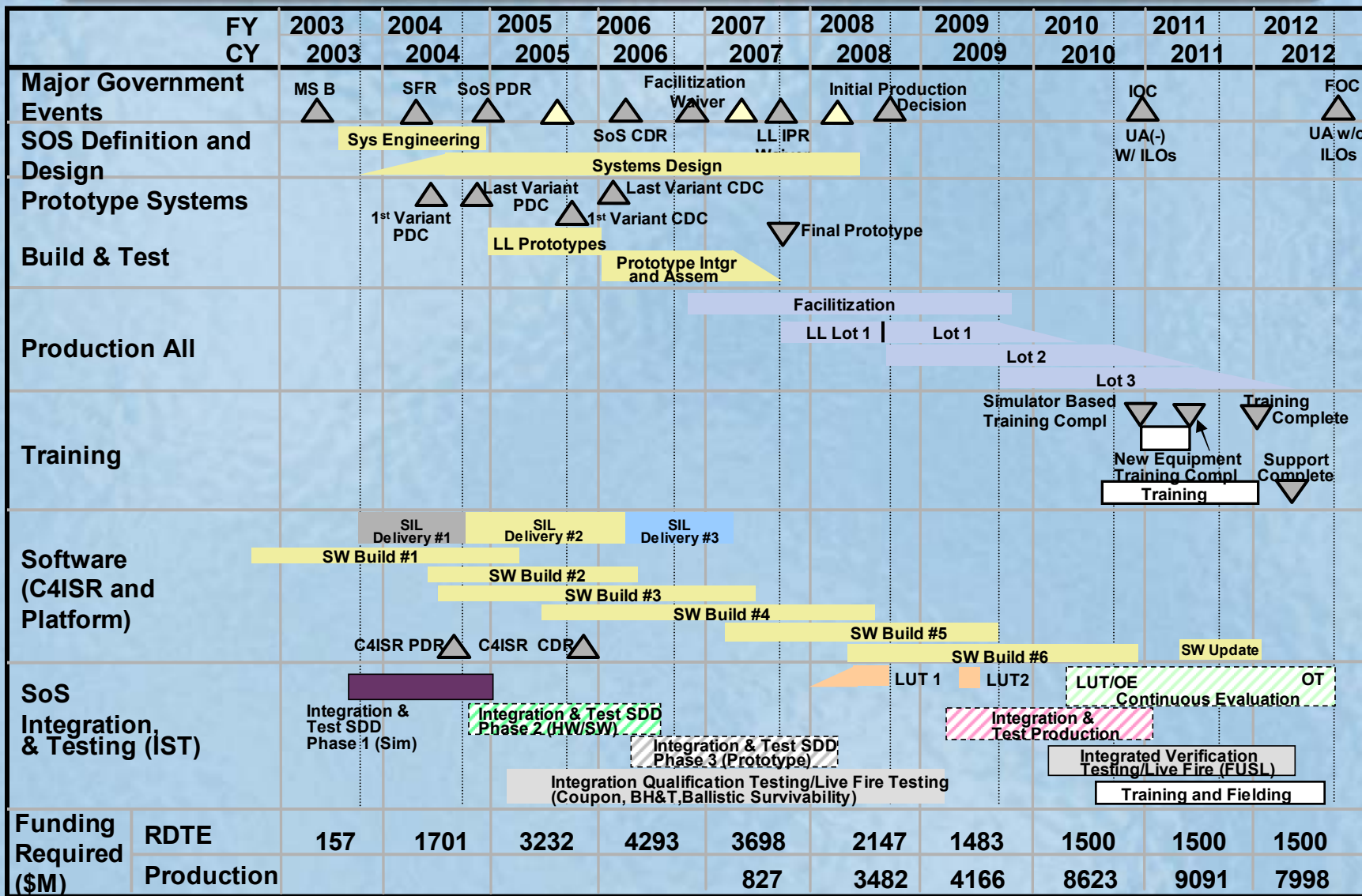
Unit of Action Design – IOC - 2012



Sustainability / Reliability

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Integrated Program Summary (Unit of Action Increment I) (Draft)



△ DAB IPRs

What We Need From You

- **Innovation**

- **We need you to bring us your innovative ideas**



Challenging Environment

- **It's a challenging environment from a:**
 - **Build Standpoint**
 - **Capabilities Standpoint**
 - **Requirements Standpoint**
- **In order to meet the the Army's Transformation Goals, we need your help and direct involvement.**

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